

REMARKS/ARGUMENTS

The Office Action mailed April 22, 2004 has been carefully considered. Reconsideration in view of the following remarks is respectfully requested.

Claim Status and Amendment to the Claims

Claims 9-10, 12-15, 17-18, 21-22, 24-27, 29-31, 33-36, 38-39 and 41-50 are now pending.

No claims stand allowed.

Claims 11, 16, 19, 23, 28, 32, 37 and 40 have been cancelled by this amendment, without prejudice or disclaimer of the subject matter contained therein.

Claims 9, 14, 18, 21, 26, 30, 35 and 39 have been amended to further particularly point out and distinctly claim subject matter regarded as the invention. Support for these changes may be found in the specification, page 10, lines 15-17.

Claims 12, 17, 24, 29, 33 and 38 have been amended to change their dependency.

New claims 41-50 also particularly point out and distinctly claim subject matter regarded as the invention. Support for these claims may be found in the specification, page 10, lines 15-17.

Specification

The specification has been amended in accordance with the Examiner's suggestion.

The 35 U.S.C. § 102 Rejection

Claims 9, 10, 13-14, 21-22, 26, 30-31 and 34-35 were rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Kotha et al., (U.S. Patent 5,521,614, 5), among which claims 9, 14, 21, 26, 30, 35 are independent claims. Since these independent claims have been amended and now contain the limitations of claims 11, 16, 23, 28, 32 and 37, respectively, which stand rejected under 35 U.S.C. § 103, these claims are discussed in response to the 35 U.S.C. § 103 rejections below.

The 35 U.S.C. § 103 Rejection

Claims 11, 16, 23, 28, 32 and 37 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Kotha et al., (U.S. Pat. No 5,521,614), and further in view of Bugg (U.S. Pat. No. 5,016,000). The limitations of these claims are now recited in independent claims 9, 14, 21, 26, 30, and 35, as amended, and thus these independent claims are discussed here. In addition, claims 18 and 19 also stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Kotha and further in view of Bugg.

The rejections are respectfully traversed.

According to the Manual of Patent Examining Procedure (M.P.E.P.) §2143,

To establish a *prima facie* case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure.

Claim 9 defines a method for expanding a first sequence of data elements representing successive rows of successive character cells corresponding to a sequence of text characters to a second sequence of data elements longer than the first sequence. The claimed method comprises (a) receiving a data element representing a row of a text character cell, (b) forming a horizontal expansion pattern corresponding to the text character based on character code and row number of the text character cell, the row number being determined based on the horizontal frequency, the horizontal expansion pattern being set to a specified length, wherein the horizontal expansion pattern being contained in lookup tables indexed by the character code and the row number, a separate lookup table being provided for each row, (c) appending the horizontal expansion pattern to the second sequence of data elements, and (d) determining whether another data element should be read.

In the Office Action, the Examiner specifically contends that the elements of the claimed invention are disclosed in Kotha except that Kotha does not teach the horizontal expansion pattern being contained in a lookup table indexed by the character code and the row number (with respect to claim 11). The Examiner further alleges that Bugg's addressing means (column 3, lines 20-25 thereof) teaches the claimed lookup table and loading the lookup table into VGA RAM, and that it would be obvious to one having ordinary skill in the art at the time of the invention to incorporate Bugg into Kotha because allegedly a look-up table provides an efficient means addressing data. The Examiner specifically equates Bugg's addressing means with the claimed lookup table, citing column 3, lines 20-25, and column 4, lines 27-31 and 56-66 thereof.

The Applicants respectfully disagree for the reasons set forth below.

Bugg allegedly teaches a character memory in which character information that identifies the patterns of discrete dots which define the character shapes are stored as corresponding patterns of data bits in respective character memory cell matrices (each composed of a respective plurality of addressable memory locations of the addressing means), and addressing means for selectively addressing and reading-out in each scan cycle of the display device the character information in accordance with the stored digital codes (column 3, lines 13-25 thereof). In addition, column 4, lines 27-31 of Bugg states as follows:

Under the control of circuit 4, digital codes derived from the received transmission information and representing characters for display are loaded onto the data bus 6 and assigned to an appropriate location in the display memory 7. Thereafter, addressing means in the circuit 4 accesses the display data stored in the display memory 7 and uses it to address selectively the character memory 8 to produce character dot information.

Thus, what are “loaded” onto the display memory 7 (via the data bus 6) are “digital codes” which are “derived from the received transmission information and representing characters for display.” The addressing means of Bugg uses the digital codes (or “display data”) stored in the display memory 7 to selectively address the character memory 8. Thus, such digital codes might be allegedly used as an index to selectively access the corresponding character dot information in the character memory 8. However, such digital codes themselves are by no means a lookup table containing expansion pattern which are indexed by the character code and the row number, as recited in claim 9.

Furthermore, column 3, lines 13-25 of Bugg merely teaches that the addressing means accesses and reads out the character information (dot pattern data) from the character memory 8

(FIG. 1 of Bugg). Although the addressing means may “selectively” address the character memory 8 in each scan cycle, this is still a direct memory access operation in which a selected portion of the data, not the entire data in the memory, is read out from the character memory 8. Then, the read-out data from the character memory 8 is directly sent to the shift registers 9 as shown in FIG. 1 of Bugg. Thus, no lookup operation or use of lookup tables is involved in this selective memory access.

It should be noted that Bugg actually mentions a different type of lookup table in column 6, lines 33-44 which is used when a character is to be displayed double height in the vertical direction. The addressing means directly accesses the character memory 8 if a character is to be displayed normal height (column 6, lines 43-46 of Bugg). This also evidences that the addressing means of Bugg itself does not suggest any lookup operation or a corresponding lookup table as discussed above. More importantly, since the addressing means directly access the character memory for *normal* display, the character dot pattern stored in the character memory 8 has to be the normal pattern without any expansion. Thus, in Bugg, the character information addressed and read-out by the addressing means does not contain any expansion pattern, contrary to the lookup table in claimed invention. Accordingly, the addressing means of Bugg, even if it might allegedly include the character memory 8 and the information thereof, fails to teach or suggest using lookup tables or the look up tables containing the horizontal expansion pattern and indexed by the character code and the row number, as recited in claim 9.

Furthermore, the Examiner might contend the Bugg's lookup table for double height display teaches the claimed lookup table, but Bugg's table is different from and does not teach or suggest the claimed lookup table for the following reasons.

First, since Bugg's lookup table is used for the double height display (i.e., expansion in the vertical direction), it does not contain any *horizontal* expansion information as recited in claim 9. In addition, Bugg's lookup table only provides mapping from the dot row numbers for two normal characters to the dot row numbers of a one double height character (column 6, lines 33-36 thereof), and thus does not include actual expansion pattern as recited in claim 9. Furthermore, since mapping by Bugg's lookup table necessarily covers a plurality of rows, it cannot be provided for each row as a separate lookup table, as recited in claim 9.

Accordingly, even if Kotha should be modified by Bugg's teaching as the Examiner alleges, the alleged combination would not yield the claimed invention as recited in claim 9. Thus, Kotha, whether considered alone or combined with or modified by Bugg, does not teach or suggest the claimed invention as recited in claim 9.

Claims 14, 21, 26, 30 and 35 include, among others, substantially the same distinctive features as claim 9. Accordingly, it is respectfully requested that the rejection of claims based on Kotha and Bugg be withdrawn. In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

Dependent Claims

As to dependent claims 10, 12-13, 15, 17-18, 22, 24-25, 27, 29, 31, 33-34, 36 and 38-39, the argument set forth above is equally applicable here. The base claims being allowable, the dependent claims must also be allowable at least for the same reasons.

In addition, dependent claim 18, as well as claim 39, recites loading into VGA RAM a lookup table containing horizontal expansion information for the next row when the horizontal scan for the current row has completed. As discussed above, in Bugg, the accessed data in the character memory 8 is *read out* from the memory 8 and then directly sent to the shift registers 9, and thus there is no loading onto a RAM is involved in this addressing operation. Therefore, Bugg's addressing means also fails to teach or suggest loading such a lookup table onto any RAM. Accordingly, none of the cited references teaches or suggests loading into VGA RAM a lookup table containing the horizontal expansion information for a next row when the horizontal scan for the current row has completed, as recited in claims 18 and 39.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

Conclusion

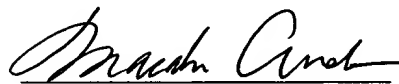
It is believed that this Amendment places the above-identified patent application into condition for allowance. Early favorable consideration of this Amendment is earnestly solicited, and Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the number indicated below.

Please charge any additional required fee or credit any overpayment not otherwise paid or credited to our deposit account No. 50-1698.

Respectfully submitted,
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Limited Recognition Under 37 CFR § 10.9(b)

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